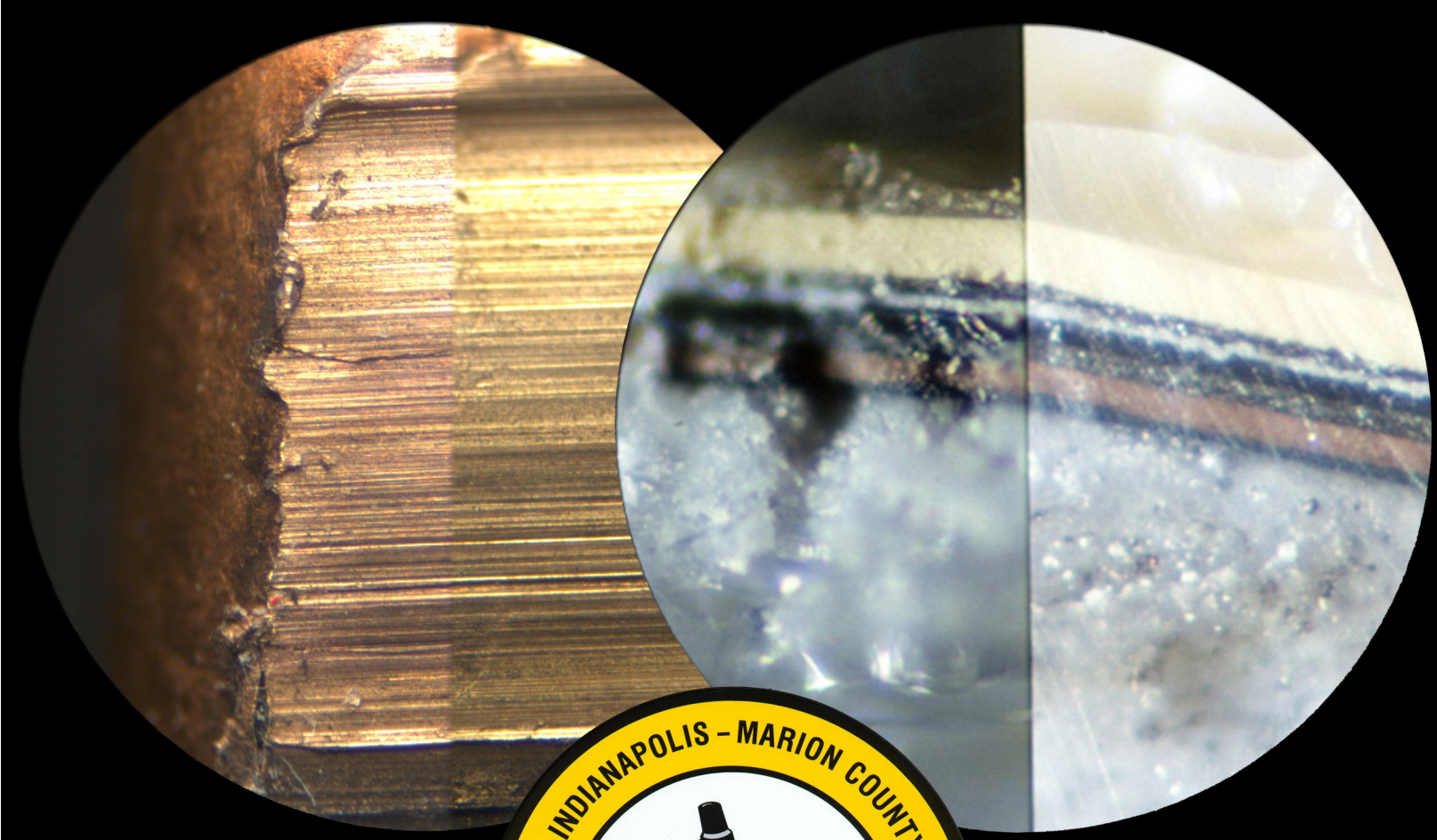

Annual Report

2009

INDIANAPOLIS – MARION COUNTY FORENSIC LABORATORY

Indianapolis-Marion County Forensic Services Agency 2009 Annual Report

2009 Forensic Services Board

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Chief, Indianapolis Metropolitan Police Department

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IUPUI Forensic and Investigative Sciences Program

Dr. Sam Nunn
City-County Council Appointee
Professor, IUPUI School of Public and Environmental Affairs

We are grateful for the dedication and wisdom of our Forensic Services Board. In spite of their busy lives, filled with other responsibilities, they selflessly gave of their time to serve in 2009.

Indianapolis-Marion County Forensic Services Agency 2009 Annual Report

Michael Medler
Laboratory Director

The Indianapolis-Marion County Forensic Service Agency will soon commemorate its twenty-fifth year of operation. Since the lab's inception, many things have changed over the years.

The Indianapolis-Marion County Forensic Services Agency (I-MCFSA) was formed in 1985 by City-County General Ordinance no. 48 and was Marion County's first Uni-Gov organization, providing services to both the City of Indianapolis, the Marion County Sheriff's Department and all other Marion County law enforcement agencies (i.e. Speedway, Lawrence, and Beech Grove Police Departments). The I-MCFSA began with approximately twelve (12) Forensic Scientists and administrative staff from the Indianapolis Police Department Crime Laboratory; ten (10) evidence technicians were also assigned to the newly formed lab from the police ranks of the Indianapolis Police Department and Marion County Sheriff's Department to handle crime scene processing. The majority of the officers assigned were experienced evidence technicians in their respective departments and were actively performing those duties when the new lab was formed.

The forensic services provided were limited in terms of variety and scope in 1985. Much of this was due to the fact that some areas were not yet invented, available, or had not been applied to the field of Forensic Science, i.e. DNA Analysis. At that time, it was not yet possible to identify individuals based upon biological material left at crime scenes.

The I-MCFSA moved a block south, from IPD headquarters to laboratory space in the new portion of the Marion County Sheriff's Department/Jail, in December of 1985. Much of this was due to the efforts of then Marion County Coroner, Dr. Dennis Nicholas, and Marion County Prosecutor, Stephen Goldsmith (who later became Mayor of Indianapolis) - both of whom stood to benefit from a modern, full-service crime laboratory serving only the citizens and law enforcement personnel of Marion County. In prior years, Marion County casework, which could not be handled at the IPD Crime Laboratory, took a place in the long queue at the Indiana State Police or FBI forensic laboratories - which was a major factor in the creation of the I-MCFSA. The new lab space was roughly 8500 square feet, a figure which is well under what is recommended per Forensic Scientist by today's standards. While the I-MCFSA still operates in this space, additional space has been added over the years as the lab grew in size and mission. Today the lab operates in roughly 24,000 square feet in three locations and has virtually reached the limit of what can be accomplished in this space.

The lab's budget for the first full year of operation in 1986 was a mere $662,000 – a figure which is somewhat misleading in that the ten Crime Scene Specialist salaries were still covered by IPD and MCSD. The lab budget and caseload have increased significantly over the years with the addition of staff members, new services and advancing technologies. An overall laboratory improvement plan was instituted in 2005-2006 which was again aided by city/county leaders with additional funding, equipment and staffing for improved case throughput. While the lab works on any type of criminal case, serious crimes are a major portion of the caseload. According to the FBI's Uniform Crime Report for 1985, there were 52 homicides, 346 rapes, and 2,422 aggravated assault cases – or a total of roughly 4,600 violent crimes in Indianapolis during that year. IMPD Uniform Crime Report data for 2008 showed 114 homicides, 468 rapes, and 5,153 aggravated assaults – or a total of over 9,700 violent crimes. While laboratory caseload data for 1985 is not available, the I-MCFSA worked over 13,000 cases in 2009.

The lab was not accredited by the American Society of Crime Laboratory Directors/Laboratory Accreditation Board in 1985. This body had recently been formed and had accredited only a few laboratories by that time. The I-MCFSA gained ASCLD/LAB Accreditation in 2001 and was honored to be the lab with the first accredited Crime Scene Unit in the world. The lab gained ASCLD/LAB-*International* Accreditation in 2007 and is currently the only crime lab accredited to these standards in the State of Indiana.

On behalf of our full service and dedicated staff at the I-MCFSA, it has been a pleasure working for the citizens and law enforcement agencies of Marion County over the years. We look forward to the opportunities and challenges that lie ahead in the coming years.

Michael M. Medler
Laboratory Director

Indianapolis-Marion County Forensic Services Agency 2009 Annual Report

Overview

The I-MCFSA (Crime Lab) began operations in 1985, providing services to all law enforcement agencies in Marion County. The Crime Lab provides scientific testing on items of evidence recovered in criminal cases by its own Crime Scene Specialists, Forensic Evidence Technicians working in the Marion County Morgue, and any other police investigator working a crime that occurred in Marion County, Indiana. Forensic analysis is conducted in the fields of Drug and Trace Chemistry, Latent Fingerprints, Serology & DNA Analysis, Firearms, Toolmark, Footwear & Tiretrack Comparisons, Forensic Documents, Photography, Videography and Digital Imaging. The laboratory provides expert testimony in these areas when requested.

Indianapolis Police Department Crime Lab, 1981 - Where the I-MCFSA Began
(4 employees depicted are still on staff today)

Staffing

The I-MCFSA is authorized 68.6 full time equivalent employee positions. This number is equal to the 2008 staffing level however, three (3) open positions remained unfunded during 2009: two (2) DNA Analyst positions and one (1) Crime Scene Specialist position.

Caseload

Over 49,000 items of evidence were received and 13,467 cases were completed by the Crime Lab in 2009. Some areas experienced a substantial increase in case submissions: Serology, up 87%; and DNA Analysis, up over 100%. Grant monies for outsourcing helped with backlogs during the year in spite of the increased demand for services in these areas.

The IMCFSA is still working toward a goal of an average six-week turnaround in each laboratory section. While work remains, progress was made in reaching this goal during 2009, with the exception of Serology and DNA where the demand for services far outweighed resources.

On the Cover

Photomicrographs of comparisons depicting (clockwise from upper left): a bullet identification - bullet from victim on right, test-fired bullet on left; a paint chip identification - paint chip from scene of hit & run on left, sample from suspect vehicle on right; a typewriter ribbon identification - typewriter ribbon on left, counterfeit prescription on right; and, a nylon carpet fiber comparison - fibers from victim's clothing on left, sample from suspect's home on right.

Indianapolis-Marion County Forensic Services Agency 2009 Annual Report

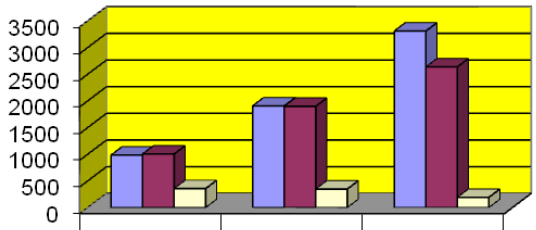
Firearms Technician Conducting a Firearm Function Test

Criminalistics Unit Firearms Section

The Firearms/Toolmarks Section test-fires weapons, compares ammunition components to suspected weapons, compares bullets and cartridge cases from different crimes, compares toolmarks left at crime scenes with suspected tools, and, compares shoe and tire impressions from crime scenes with suspected shoes and tires. This section uses the Integrated Ballistics Information System (IBIS) – a tool which digitizes the unique markings left by firearms on ammunition components for upload to a regional database which can be run internationally – an investigative tool linking evidence from various crimes involving firearms. Sixty-three (63) "hits," or links between ammunition components and firearms or ammunition components in different cases were made during 2009, bringing the total "hits" in this laboratory to 286 since the installation of this technology.

The staff of the Firearms Section consists of six (6) Firearms Examiners, one of which supervises the section, and two (2) Firearms Technicians. The chart below depicts Firearms Section casework activity in recent years.

Firearms Examinations/NIBIN



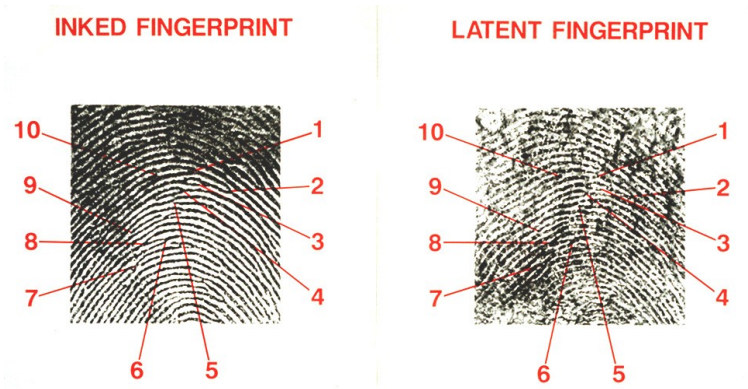
	2007	2008	2009
Case Submissions	984	1907	3309
Completed	1004	1898	2637
Backlog	356	347	191

Note - the 2008 & 2009 statistics include lab-generated NIBIN cases which were not counted in previous years unless they resulted in a "hit."

Logging in Weapons Submitted for DNA Analysis & NIBIN Entry

Indianapolis-Marion County Forensic Services Agency 2009 Annual Report

Chart Depicting the Identification of a Latent Print



Criminalistics Unit Latent Fingerprint Section

Latent prints are invisible replications of the details found in the friction ridge-covered skin on the fingers, palms, toes and soles of a person's feet. This detail is made visible with various processing techniques: dusting with powders, the application of chemicals, and specialized lighting techniques. Once the print is visible it must be preserved by the use of photography, the application of tape, or some other means so that it might be examined and compared.
The I-MCFSA employs four (4) Latent Print Technicians who process items using various techniques, depending upon the surfaces and composition of the evidence. They capture any ridge detail which becomes visible, generally through the use of digital photography or by making powdered ridge detail stable with adhesive tape. The lab's Crime Scene Specialists also employ the same latent print processing and preservation techniques when at crime scenes, or on evidence brought to the laboratory.

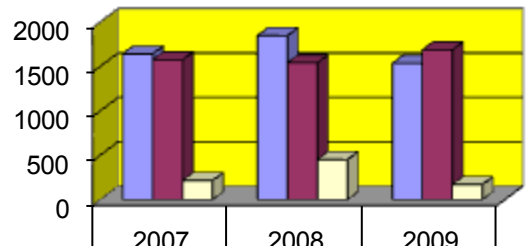
The preserved ridge detail is then transferred to a Latent Print Examiner whose job is to examine the detail and determine if it is identifiable, and if so, who deposited it at the scene or on the item of evidence. The I-MCFSA employs three (3) Latent Print Examiners.

Latent prints are compared to suspects named as a part of the investigation or run through the Automated Fingerprint Identification System (AFIS) if suspects are unknown. AFIS is a database which contains the digital replication of known prints of convicted felons and other people (i.e. criminal justice system employees) as determined by the jurisdiction who owns the system. AFIS makes a digital comparison between unknown latent prints and the known database prints and produces a list of individuals whose prints may match the unknown evidentiary prints. The Latent Print Examiner must still make a side-by-side comparison between the known and unknown prints in order to identify or exclude individuals as having left the latent print, regardless of the AFIS results.

AFIS is also used to store unidentified evidentiary latent prints and continually compares them against the known database as it expands. The system notifies an examiner regarding any potential "hit," or possible match between the unknown prints and known prints of people being added to the database.

A total of 374 subjects were identified on latent prints developed by the Crime Lab during the year, a good portion of which resulted from serious crimes.

Latent Fingerprint Processing & Comparison



	2007	2008	2009
Case Submissions	1641	1847	1536
Completed	1575	1541	1687
Backlog	216	451	170

Indianapolis-Marion County Forensic Services Agency 2009 Annual Report

Criminalistics Unit Forensic Documents Section

The Forensic Documents Section is staffed with two (2) Forensic Document Examiners, one full-time examiner and the Deputy Director . The majority of the work is comprised of handwriting comparison – the identification of the writer of documents used in crimes (i.e. charge card receipts, robbery notes). This section also examines indented writing, inks, altered or counterfeit documents, photocopiers, typewriters and other machines or tools used to create documentary evidence.

Identification of Charred Fragments of a $20 Bill

Forensic Document Examinations

	2007	2008	2009
Case Submissions	145	147	132
Completed	133	137	133
Backlog	7	15	9

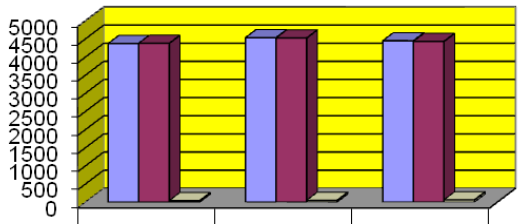
Chemistry Unit Drug Chemistry Section

The Drug Chemistry Section is staffed with five (5) full-time and one part time Drug Chemist (one of which supervises the Chemistry Unit) and the Quality Assurance Manager. This section tests suspected drugs to determine the presence and weight of any controlled substances. Marijuana, cocaine, methamphetamine and heroin are the most commonly identified controlled substances, however, various pills, steroids, and designer drugs are also identified. Multiple tests are conducted on all suspected controlled substances received by the Crime Lab. The testing accomplished on each piece of evidence is determined by scientific principles and protocols used by Forensic Scientists and accredited laboratories throughout the country.

Drug case submissions continued at about the same pace in 2009, as the lab continued to work cases in a confirmatory mode in preparation for court. The Indianapolis Metropolitan Police Department's preliminary testing program, which started in 2005, is still successfully spot testing commonly found drugs of abuse, resulting in fewer submissions to the Crime Lab's Drug Chemistry Section.

Truck Axle Containing Heroin

Drug Chemistry



	2007	2008	2009
Case Submissions	4370	4533	4447
Completed	4377	4522	4428
Backlog	43	50	62

Indianapolis-Marion County Forensic Services Agency 2009 Annual Report

Chemistry Unit
Trace Chemistry Section

The Trace Chemistry Section is staffed with three (3) Trace Chemists. This section tests and/or compares hairs, fibers, fire debris, blood alcohol, physical matches, plastics, auto headlamps, and other evidentiary items. The addition of a third Trace Chemist allowed for a significant reduction in the backlog during the year.

The chart to the right depicts Trace Chemistry casework activity in recent years.

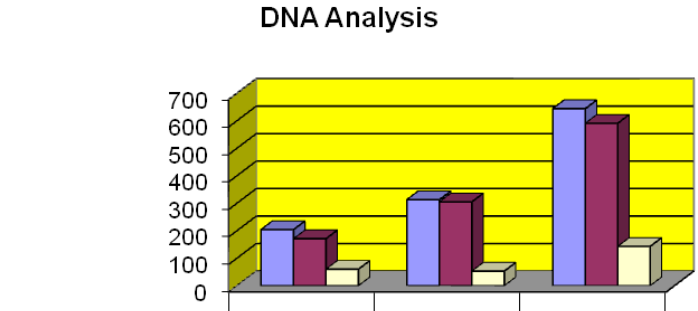
	2007	2008	2009
Case Submissions	762	768	778
Completed	847	914	750
Backlog	236	28	48

Biology Unit

The Biology Unit consists of two sections: DNA Analysis and Serology. It is staffed with five (5) DNA Analysts and five (5) Serologists; two (2) of which are supervisors in the unit - a DNA Section Supervisor/Technical Manager and a Serology Section Supervisor.

The DNA Section develops DNA profiles from evidentiary samples for comparison with the genetic profiles of suspects, or for submission into the Combined DNA Index System (CODIS). This database is particularly useful when there is a biological sample obtained from the crime scene and known suspects do not exist. CODIS allows unknown profiles to be searched against other profiles in the database, generally those of convicted felons and unknown profiles from other cases.

DNA Section casework resulted in fifty-two (52) CODIS hits during 2009, including ten (10) homicide cases, ten (10) rape cases, six (6) robberies and fourteen (14) burglaries. These are cases which may have potentially remained unsolved, or taken significantly longer to solve, without the use of CODIS.



	2007	2008	2009
Case Submissions	204	313	644
Completed	171	305	591
Backlog	60	53	143

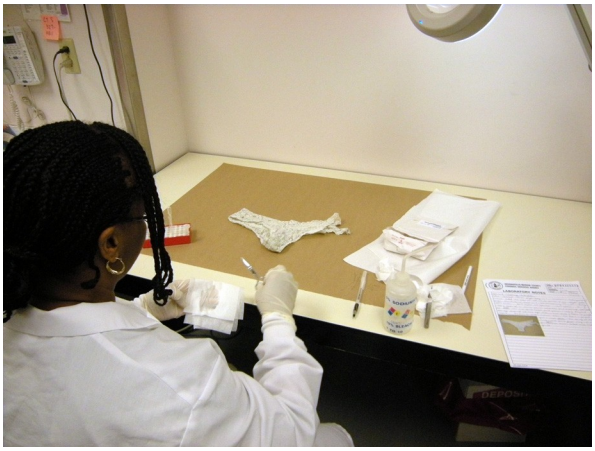
DNA Analyst Placing Samples into a Genetic Analyzer

Indianapolis-Marion County Forensic Services Agency 2009 Annual Report

Biology Unit

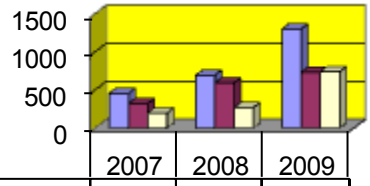
The Biology Unit again increased production significantly in 2009 - up 23% in Serology and 95% in DNA, while falling further behind due to increasing demand - up 87% in Serology and over 100% in DNA Analysis.

All DNA cases begin with the examination of evidence by Forensic Scientists assigned to the Serology Section. They scan the evidence employing various visual, microscopic, and chemical techniques in a search for potential biological stains. Once found, the Serologists document, identify, and prepare samples of the biological stains for the DNA Section. Clothing, bedding, weapons and other evidentiary items are carefully documented and sampled during the Serologist's search for biological stains.



Forensic Serologist Cutting Samples for DNA Analysis

Serology



	2007	2008	2009
Case Submissions	456	692	1299
Completed	323	593	733
Backlog	197	267	740

Crime Scene Unit

The Crime Scene Unit consists of two sections: the Crime Scene Section and the Forensic Evidence Technician Section.

The Crime Scene Section is staffed 24 hours a day, 365 days a year. Eighteen (18) Crime Scene Specialists, including a supervisor and two (2) technical leaders, are divided among three shifts to provide around-the-clock coverage for all law enforcement agencies in Marion County. This section responded to 761 crime scenes during 2009, the majority of which were serious crimes against a person. This represents a 25% increase over 2008. Specialists process crime scenes by conducting thorough searches, documentation, evidence collection, scene sketches, as well as photographing the evidence and scene using still and video cameras.

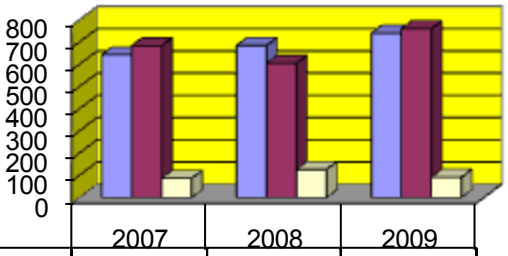
Crime Scene Specialist Swabbing a Vehicle for Touch DNA in the Crime Lab Processing Bay at MECA

Indianapolis-Marion County Forensic Services Agency 2009 Annual Report

Crime Scene Unit

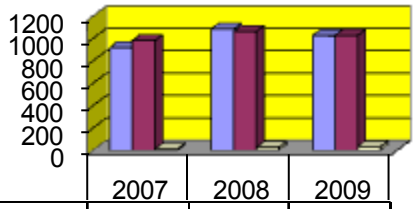
The Forensic Evidence Section attends autopsies to take photographs and collect physical evidence, including: clothing, rolled fingerprints, blood, hair, fibers, bullets, and other trace evidence. The four (4) Forensic Evidence Technicians, including a supervisor, of this section also collect and process sexual assault kits from Marion County hospitals to ensure the integrity of the physical evidence from the hospital to the Biology Unit. Forensic Evidence Technicians are also trained to handle video and photo applications within the laboratory, which includes responsibility for the I-MCFSA crime scene videotape library, camera and digital imaging equipment, etc. They are trained to use the lab's dTective Forensic Video Examination System for applications involving surveillance and other types of video.

Crime Scene Section



	2007	2008	2009
Case Submissions	643	685	741
Completed	684	605	761
Backlog	87	127	92

Forensic Evidence Technician Section



	2007	2008	2009
Case Submissions	918	1084	1025
Completed	981	1062	1027
Backlog	11	27	32

Taking Possession of a Spent Bullet at the Marion County Morgue

The chart to the left depicts Forensic Evidence Technician casework in recent years. This includes the processing of 481 sexual assault kits and collecting evidence at 162 autopsies during 2009.

Administrative Unit

Administrative staffing consists of nine and six-tenths (9.6) positions (the 0.6 representing a part time position), including: a Director, Deputy Director, Quality Assurance Manager, Operations Manager, Forensic Administrator, three and six -tenths (3.6) Forensic Evidence Specialists, and a custodian. Areas of responsibility include the quality assurance program, budget management, purchasing, information technology, security, human resources, grant management, evidence handling and administrative functions.

Staffing

Staffing levels were held at 2008 levels during 2009, ending with five (5) vacant positions.

Indianapolis-Marion County Forensic Services Agency 2009 Annual Report

Administrative Unit

The I-MCFSA maintained its American Society of Crime Laboratory Directors/Laboratory Accreditation Board – *International* Accreditation during 2009, successfully completing the surveillance visit and internal assessment. The purpose of this accreditation includes: to improve the quality of laboratory services; to maintain standards by which the laboratory can assess its performance and strengthen the operation; to provide an independent, impartial, and objective system for a total operational review; and to offer to the general public and to users of laboratory services a means of identifying those laboratories which have demonstrated compliance with established standards.

Grant Management

A component of the continued success of this agency is the receipt of State and Federal Grant monies. This agency continually pursues grant opportunities and has been fortunate in receiving federal and local awards, with 2009 being no different. The I-MCFSA was successful in receiving grant awards totaling over $1.1 million for the purchase of equipment for several sections of the laboratory, to provide training and development for the Forensic Scientists, to purchase supplies to assist in the analysis of DNA cases, to provide overtime for analysts to reduce the case backlog, and for the purchase of a mass disaster/major crime scene vehicle.

Financial Information

Annual Budget	2007	2008	2009
Annual Budget	$5,193,493	$7,001,093	$7,483,245
Expenses			
Personal Services	$4,176,670	$4,527,945	$4,650,502
Materials and Supplies	$ 188,180	$ 264,181	$ 386,644
Services and Charges	$ 733,643	$ 742,848	$ 776,366
Properties and Equipment	$ 95,000	$ 330,707	$ 707,737
Funding Sources			
County General Fund	$5,193,493	$6,320,932	$5,144,681
State and Federal Grants	$ 361,269	$ 960,555	$1,113,221
Public Safety Income Tax			$ 889,698

Notes:
1. Starting in 2008, annual budget figure includes grant monies
2. Starting in 2008, expenses include grant monies
3. $357,246 was returned to the County General Fund in 2009
4. Tracking revenue and expenses directly to the Public Safety Income Tax Fund was initiated in 2009.

Indianapolis-Marion County Forensic Services Agency 2009 Annual Report

Administrative Unit

Procurement

Purchasing orders representing a 40% increase in purchasing documentation over 2008 levels were processed during 2009. Coordination of these efforts with lab personnel allowed this to be accomplished without additional staffing.

Budget

Budget adjustments continued to be made during the year. Reduction in spending was accomplished by not filling vacant positions and continued efforts to streamline processes where possible.

Appropriated state and federal grant monies of $1.1 million, of which $806,017 was spent, provided much needed funding to allow the purchase of additional analytical equipment, overtime funding and the ability to continue to provide professional development for the laboratory staff.

The I-MCFSA Main Laboratory is housed with the Marion County Sheriff's Department at 40 S. Alabama St.

Fleet

A fleet management project was developed and implemented in 2006. This plan called for the periodic replacement of agency vehicles as needed to meet operating requirements while at the same time reducing the impact on the budget in any given year. Current demands and equipment needs necessitated that all four of the crime scene response vans be replaced prior to the scheduled end-of-service date. Four new vans were ordered that will allow for safer transport of agency personnel and drastically improve the care of sensitive equipment and evidence in the cargo area. It should be noted that additional appropriations were not required to fund this project. Additionally, a Homeland Security Grant provided funding for the purchase of a 19' mobile major crime scene/disaster response vehicle. The purpose of this vehicle is to provide proper support at major scenes and mass disasters. Delivery of this vehicle is scheduled for March, 2010.

LIMS – Laboratory Information Management System

Expansion of our LIMS continued throughout 2009 by adding to the availability of customer reports and data on a 24/7 basis. Testing is now underway to allow submission of certain documents electronically which will save time for our law enforcement customers who will no longer have to travel here during certain business hours.

Training and Tours

Over 1,398 people, including Marion County Judges, police officers and college students, received training and/or tours from Crime Lab personnel during 2009.